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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

MILLER, RYAN J

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,137

Applicant(s)

AKASHI, AKIRA

Examiner

Ryan J. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because a) reference characters "203" in Fig. 4 and "205" on page 10, line 11 of the specification have both been used to designate a monitor screen and b) reference character "308" has been used to designate both DRAM in Fig. 8 and a column of a table in Fig. 18. The drawings are also objected to as failing to comply with 37 CFR 1.84(p)(5) because a) they include the following reference sign(s) not mentioned in the description: "314" referring to a timer in Fig. 8 and b) they include the following reference sign(s) not mentioned in the description: S206-S210 of Fig. 10. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: On page 4, lines 22-24, the specification describes that Fig. 2 is a view showing the flow of a procedure for extracting embedded information from a watermark image. However, Fig. 2 is a view for showing the flow of a procedure for embedding information in the image. No figure is provided showing a procedure for extracting embedded information.

Appropriate clarification is required.

Claim Objections

3. Applicant is advised that should claims 1, 10, and 19 be found allowable, claims 2, 11, and 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two

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claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

4. The following quotation of 37 CFR § 1.75(a) is the basis of objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

5. Claims 1-20 are objected to under 37 CFR § 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery.

Regarding claim 1, the claim recites the limitation “the image sensing” at lines 4 and 6. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests changing this limitation to read “the image sensing means”. Similar problems exist in claims 2, 10, 11, 19, and 20.

Regarding claims 3-6 and 12-15, these claims recite the limitation “fourth item” in line 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Regarding claims 7-9 and 16-18, these claims recite the limitation “third item” in line 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-6, 9-15, and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Narayanaswami et al. (U.S. Patent Application Publication US 2003/0011684 A1).

As applied to claim 1, which is representative of claim 2, Narayanaswami et al. disclose an image recording apparatus (see Fig. 1: Reference numeral 100 referring to a camera) including image sensing means for sensing an object (see paragraph [0032]: The reference describes a means for receiving and converting light energy from the photographic lens into suitable electric signals (i.e. image sensing means).) and means for embedding predetermined data in image data obtained by the image sensing (see Fig. 1: Reference numeral 134 referring to a watermark processor), comprising: means for setting a first item for defining a mode for the image sensing (see Fig. 1 and paragraph [0034]: The reference describes camera electronic circuitry 128 for controlling and measuring parameters that define the image sensing.); and means for setting a second item for defining a mode for the embedding on the basis of the first item (see Fig. 1 and paragraph [0042]: The reference describes a watermark processor 134 that embeds information in the image specified by the user. The user specifies what should be embedded using the user interface display 126.), wherein said image sensing means senses an object on the basis of the first item (see paragraph [0034]: The reference describes that the camera senses an object based on the settings of the camera electronics.), and said embedding means executes the embedding on the basis of the second item (see paragraph [0042]: The reference describes that the watermark processor embeds information based on the parameters specified by the user.).

As applied to claim 3, Narayanaswami et al. disclose that the first item defines values associated with an exposure time and aperture of said apparatus (see paragraph [0034]: The reference describes that camera electronic circuitry 128 defines parameters including exposure duration (i.e. exposure time) and aperture setting (i.e. aperture of said apparatus).).

As applied to claim 4, Narayanaswami et al. disclose that the first item defines a value associated with a continuous-exposure frame count of said apparatus (see paragraph [0034]: The reference describes that camera electronic circuitry 128 defines parameters including frame number (i.e. a value associated with a continuous-exposure frame count of said apparatus).).

As applied to claim 5, Narayanaswami et al. disclose that the first item defines a value associated with image quality of a sensed image (see paragraph [0034]: The reference describes that camera electronic circuitry 128 defines parameters including image quality (e.g. high, medium, or low).).

As applied to claim 6, Narayanaswami et al. disclose that the first item defines a value associated with sensitivity with respect to an amount of light received (see paragraph [0034]: The reference describes that camera electronic circuitry 128 defines parameters including shutter speed, which determines the amount of light received. Therefore, this value is associated with sensitivity.).

As applied to claim 9, Narayanaswami et al. disclose that the second item defines a type of the predetermined data to be embedded (see paragraph [0042]: The reference describes that the user can specify which parameters (i.e. predetermined data) are watermarked (i.e. embedded).).

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As applied to claims 10-15 and 18, which merely call for the method performed by the apparatus of claims 1-6 and 9, since Narayanaswami et al. disclose the apparatus for performing the method, then the method is also disclosed.

As applied to claims 19 and 20, which merely call for a computer-readable memory storing code for executing the steps performed by the apparatus of claims 1 and 2, Narayanaswami et al. disclose such a computer-readable memory since a CPU 102 performs all of the processing in Narayanaswami et al.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 7, 8, 16, 17, 21, 22, 24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Narayanaswami et al. (U.S. Patent Application Publication US 2003/0011684 A1) and Rhoads et al. (U.S. Patent Application Publication US 2002/0080997 A1). The arguments as to the relevance of Narayanaswami et al. in the rejection of claim 1 above are incorporated herein.

Claim 7 requires that the second item defines a type of watermarking and claim 8 requires that the second item defines a value associated with the embedding strength.

While Narayanaswami et al. does disclose that any conventional watermarking method may be employed by the system (see paragraph [0042]), the reference does not disclose that the second item defines the type of watermarking or the embedding strength.

Rhoads et al., in the same field of endeavor of image processing and the same problem solving area of digital watermarking, discloses defining a type of watermarking and associating a value with the embedding strength (see paragraphs [0021]-[0023]: The reference describes that the user can select three different watermarking modes: low, medium, and high. The reference further describes that each of these watermarking modes embeds a watermark with a different durability.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Narayanaswami et al. by allowing the system to define a type of watermarking and associate a value with the embedding strength as taught in Rhoads et al. because this allows the watermarking aspect of the system to become “highly automated and essentially transparent to a user” (see Rhoads et al.: paragraph [0017]). Therefore, the user merely needs to specify the type of watermarking and the strength of the watermarking and the system automatically watermarks the image without any further user interaction.

As applied to claims 16 and 17, which merely call for the method performed by the apparatus of claims 7 and 8, since the combination of Narayanaswami et al. and Rhoads et al. discloses the apparatus for performing the method, then the method is also disclosed.

As applied to claim 21, Narayanaswami et al. disclose an image recording apparatus (see Fig. 1: Reference numeral 100 referring to a camera) having image sensing means (see paragraph [0032]: The reference describes a means for receiving and converting light energy from the photographic lens into suitable electric signals (i.e. image sensing means).), comprising: selection means for selecting one of a plurality of image sensing modes (see paragraphs [0034] and [0039]: The reference describes that; embedding means for embedding information as a

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watermark in an image (see Fig. 1: Reference numeral 134 referring to a watermark processor.); and control means for performing control to activate said embedding means to embed the information in the image data sensed by said image sensing means (see Fig. 1: Reference numeral 102 referring to a CPU that acts as a control means for the system.).

As applied to claim 22, Narayanaswami et al. disclose that the information includes information specifying a user name, image sensing date, and image recording apparatus (see paragraph [0043]: The reference presents a table listing the types of information that can be embedded into the image including date, photographer (i.e. user name), and image mode (i.e. image recording apparatus).).

Claims 21 and 26 further call for a determination means for determining whether to activate the embedding means.

While Narayanaswami et al. disclose that the user can select which parameters are to be watermarked in the image (see paragraph [0042]), the reference does not describe the use of a determination means for determining whether or not to embed the data.

Rhoads et al., in the same field of endeavor of image processing and the same problem solving area of digital watermarking, discloses a user interface that allows the user to select a watermarking mode (see paragraph [0021]). This user interface acts as determination means since this module determines whether or not an image is watermarked, as well as the mode of watermarking.

As applied to claim 24, Rhoads et al. disclose that the embedding means comprises first embedding means for embedding information with priority given to image quality of an image in which the information is to be embedded, and second embedding means for embedding

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information with priority given to robustness of the information to be embedded, and means for determining one of said first and second embedding means when information is to be embedded (see Fig. 2 and paragraph [0021]: The reference describes that three watermarking modes can be selected: low, medium, and high. If the low watermarking mode is selected priority is given to the quality of the image. If the high watermarking mode is selected priority is given to the durability (i.e. robustness) of an image.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Narayanaswami et al. by adding the determination means taught in Rhoads et al. because this allows the watermarking aspect of the system to become “highly automated and essentially transparent to a user” (see Rhoads et al.: paragraph [0017]). Therefore, the system can determine what type of watermark to embed in the image and automatically watermark the image without any further user interaction.

As applied to claim 27, which merely call for the method performed by the apparatus of claim 21, since the combination of Narayanaswami et al. and Rhoads et al. discloses the apparatus for performing the method, then the method is also disclosed.

10. Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Narayanaswami et al. (U.S. Patent Application Publication US 2003/0011684 A1) and Rhoads et al. (U.S. Patent Application Publication US 2002/0080997 A1), as applied to claim 21 above, and further in combination with Isnardi et al. (U.S. Patent No. 6,037,984 A).

Claim 23, which is representative of claim 25, calls for selectively embedding either a visible watermark or an invisible watermark.

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This feature is absent from the combination of Narayanaswami et al. and Rhoads et al.; although Narayanaswami et al. discloses that any conventional watermarking method may be employed (see paragraph [0042]). However, Isnardi et al., in the same field of endeavor of image processing and the same problem solving area of digital watermarking, discloses selectively embedding a visible or invisible watermark (see column 2, lines 43-46: The reference describes that the magnitude of the watermark values and their placement in the DCT array can be adjusted to selectively produce a visible or invisible watermark.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Narayanaswami et al. and Rhoads et al. by adding the ability to selectively embed either a visible watermark or an invisible watermark as taught by Isnardi et al. because such a process allows for the system to selectively watermark an image with the best type of watermark for a specific application.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan J. Miller whose telephone number is (703) 306-4142. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H. Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ryan J. Miller

Ryan J. Miller
Examiner
Art Unit 2621



BRIAN WERNER
PRIMARY EXAMINER